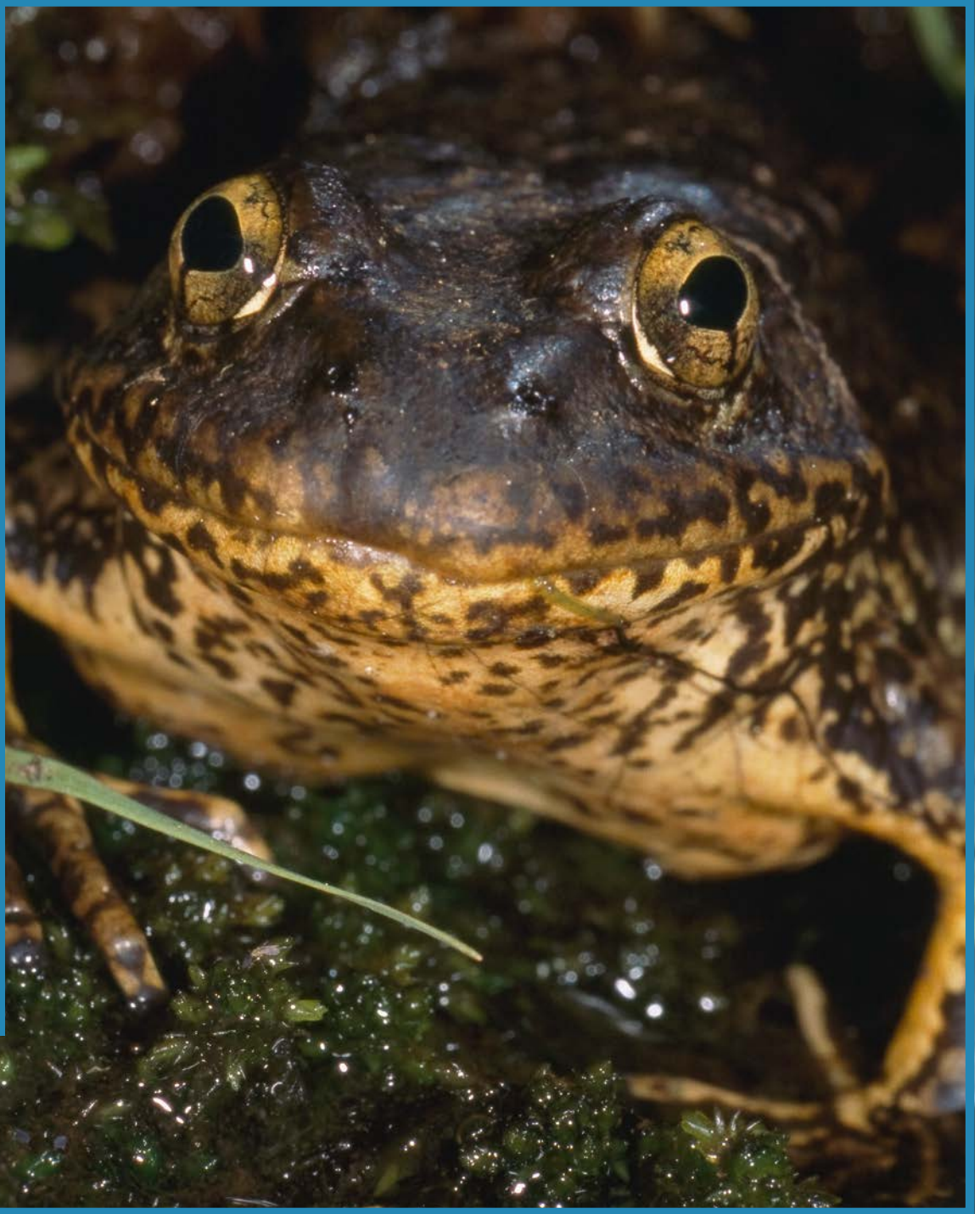


3

Science Standards
3.3.c. and 3.3.d.

Supports
ELA Standard:
Writing 3.1.1.



Living Things in Changing Environments

California Education and the Environment Initiative

Approved by the California State Board of Education, 2010

The Education and the Environment Initiative Curriculum is a cooperative endeavor of the following entities:

California Environmental Protection Agency
California Natural Resources Agency
California State Board of Education
California Department of Education
Department of Resources Recycling and Recovery (CalRecycle)

Key Partners:

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Office of Education and the Environment

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Lesson 1 The Salt Marsh Ecosystem

None required for this lesson.

Lesson 2 Altering the Marsh: Survive, Move, or Die

Altering the Salt Marsh. 2

Lesson 3 Lights, Camera, Action! A Play About Changing Habitats

None required for this lesson.

Lesson 4 What Happened in the San Bernardino Mountains?




None required for this lesson.

Lesson 5 Restoring Habitats

None required for this lesson.

Assessments

Living Things in a Changing Environment—	
Traditional Unit Assessment Master.	5
Plants and Animals in Changing Environments—	
Alternative Unit Assessment Master.	9

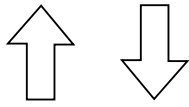
	<p>Power plants make the temperature of the water go</p> <p>↑ ↓</p> <p>This makes the population of _____ go</p> <p>↑ ↓</p>
	<p>Power plants make the temperature of the water go</p> <p>↑ ↓</p> <p>This makes the population of _____ go</p> <p>↑ ↓</p>
	<p>Power plants make the amount of cloudiness in water go</p> <p>↑ ↓</p> <p>This makes the population of _____ go</p> <p>↑ ↓</p>

Altering the Salt Marsh

Lesson 2 | page 2 of 3

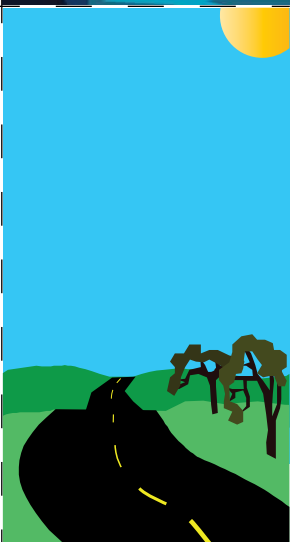
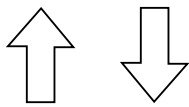


Building dams on freshwater rivers makes the **saltiness** in the marsh go

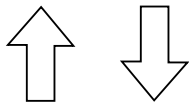


This makes the population of

go

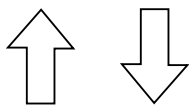


Building roads makes the **population of pickleweed** go

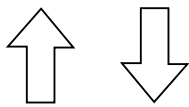


This makes the population of

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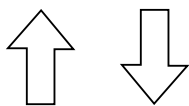


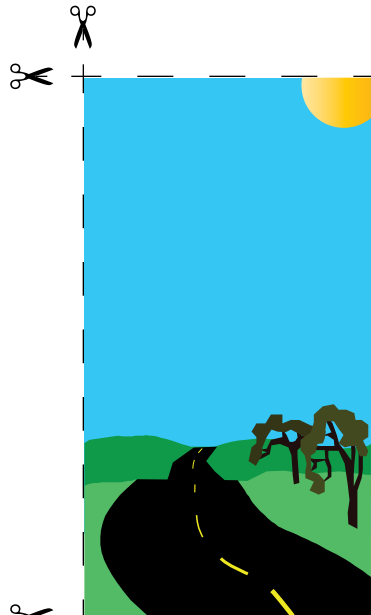
Dredging so that ships can come in the bay makes the **depth of the water** go



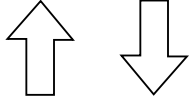
This makes the population of

go



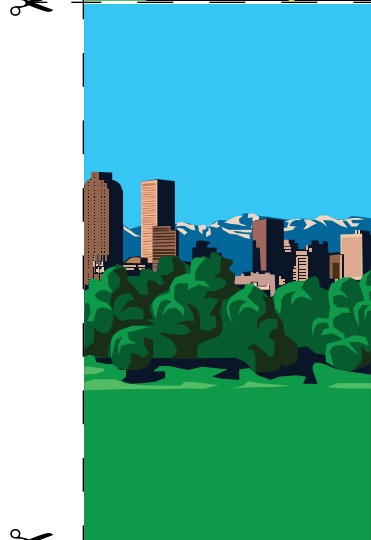
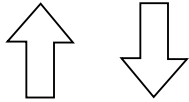


Building roads makes the **population of pickleweed** go

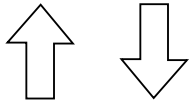


This makes the population of

_____ go

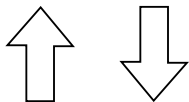


People build near the edge of the marsh. This makes the **population of bees** near the edge go

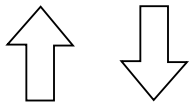


This makes the population of

_____ go

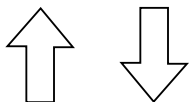


Cities have been built near the marsh. The **number of people and pets** that disturb birds' nests goes



This makes the population of

_____ go



Name: _____

Instructions: Select the best answer and circle the correct letter. (2 points each)

1. Sweetwater Marsh has salty water. Some plants and animals can survive well there. The marsh has become saltier. Which of these cannot grow in the saltier water?
 - a. green sea turtle
 - b. pickleweed
 - c. salt marsh bird's beak
 - d. round stingray

2. Sweetwater Marsh has become muddier. Some plants and animals can still live here. Others cannot. Which of these cannot live in the muddier water?
 - a. eelgrass
 - b. Belding's savannah sparrow
 - c. green sea turtle
 - d. round stingray

3. Pickleweed has been removed from Sweetwater Marsh. This hurts some plants and animals. Which of these is hurt by the removal of pickleweed?
 - a. round stingray
 - b. salt marsh bird's beak
 - c. green sea turtle
 - d. eelgrass

4. People walk near the edge of Sweetwater Marsh. They bring their pets with them. Which of these are hurt when people and pets walk near the marsh's edge?
 - a. pickleweed
 - b. green sea turtle
 - c. round stingray
 - d. Belding's savannah sparrow

Name: _____

5. People dredged Sweetwater Marsh to make it deeper for ships. This made the marsh deeper. As a result, some of the eelgrass _____.
 - a. thrived
 - b. moved
 - c. died out
 - d. sprouted

6. People built a power plant by Sweetwater Marsh. This made the water warmer. As a result, green sea turtles _____.
 - a. moved there
 - b. died out
 - c. moved away
 - d. grew bigger

7. People are going to tear down the power plant. This could help the eelgrass by making the water _____.
 - a. muddier
 - b. less cloudy
 - c. warmer
 - d. icy cold

8. How can people restore parts of Sweetwater Marsh?
 - a. move trails away from nests
 - b. remove roads near the marsh
 - c. take out plants that do not come from there
 - d. all of the above

9. Chaparral and scrubland sometimes have fires. What usually happens to the plants that live there?
 - a. They live through fire and grow back.
 - b. They die and never grow back.
 - c. Their seeds blow to other places that did not burn. They grow there instead.
 - d. They can live through fire because they do not burn.

Name: _____

10. People often start fires. They happen more often than they did in the past. When fires happen frequently, which of these grows best?
 - a. chamise
 - b. coastal sagebrush
 - c. grasses
 - d. Pacific rattlesnake
11. How have cowbirds changed life for California gnatcatchers?
 - a. Cowbirds use the gnatcatchers' trees.
 - b. Cowbirds eat the gnatcatchers.
 - c. Cowbirds take the gnatcatchers' food.
 - d. Cowbirds lay their eggs in the gnatcatchers' nests.
12. Many events have happened in San Bernardino National Forest. Which of these events are often caused by humans?
 - a. drought
 - b. destruction of trees by mountain pine beetles
 - c. fire
 - d. floods and mudslides
13. The trees in the San Bernardino National Forest have become weak. Which natural event made them weak?
 - a. air pollution
 - b. drought
 - c. fire
 - d. chopping by people
14. Mountain yellow-legged frogs lived in the San Bernardino National Forest. What happened to them?
 - a. They died in the drought.
 - b. They all died in the fire.
 - c. They hopped to another habitat.
 - d. They died in floods and mudslides.

Name: _____

15. Ponderosa pines live in the San Bernardino National Forest. What has happened to them?
- a. They died in a drought.
 - b. They died when mountain pine beetles damaged their tissue.
 - c. They died when they were chopped down.
 - d. They survived the fire.

Instructions: Write a brief answer (2 or 3 sentences) to each of the following questions. (5 points each)

16. How have people changed the Sweetwater Marsh?

17. How have people changed chaparral and scrubland habitats?

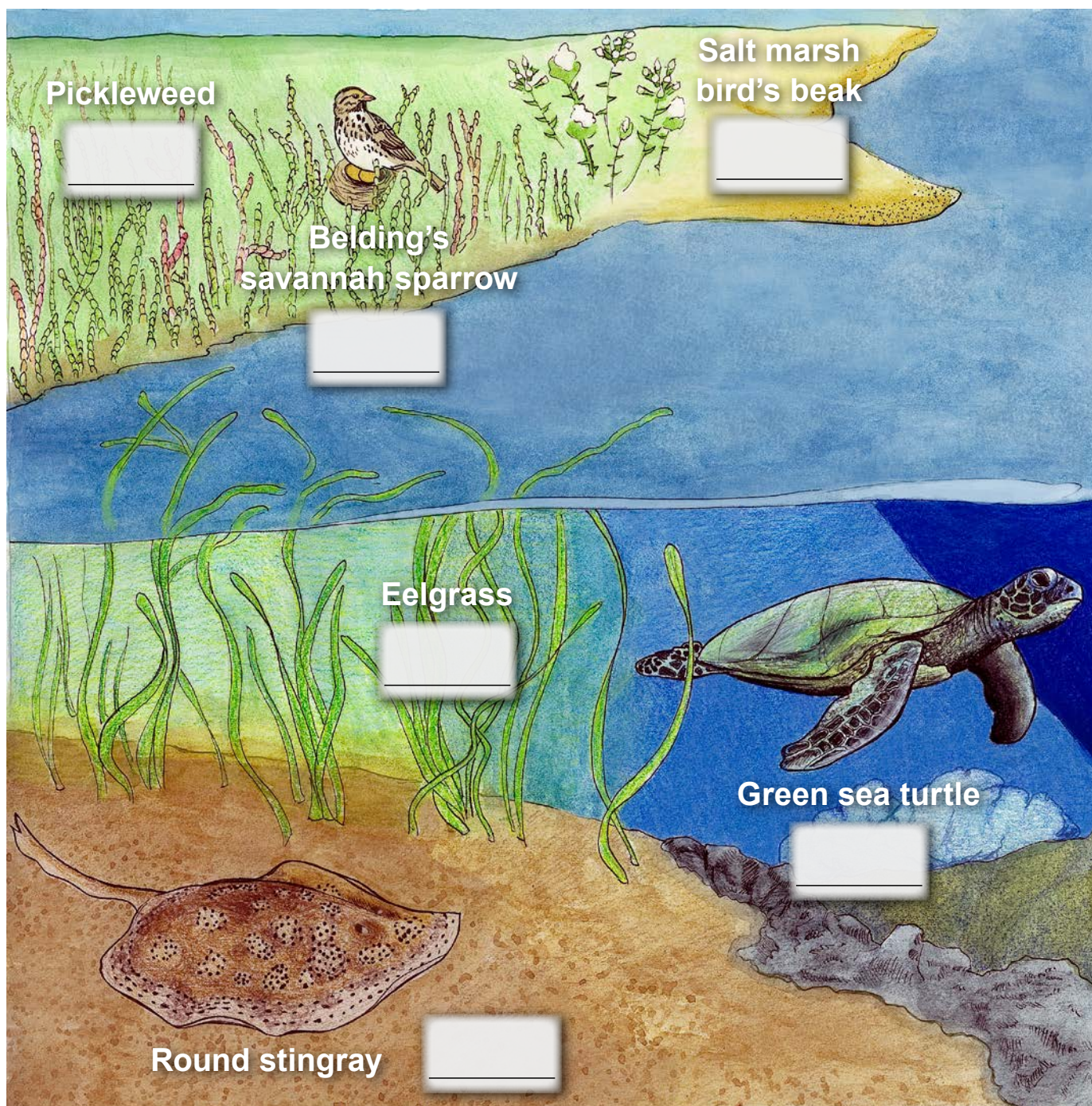
Name: _____

Part 1: Sweetwater Marsh

Instructions: Read each of the sentences that describes a change in the marsh. Write the correct letters in the box next to the drawings of the plants and animals on the next page. (1 point each)

1. The water in the marsh has become saltier. Write the letter “S” on the plants and animals the saltier water hurts.
2. The water in the marsh has become muddy. Write the letter “M” on the plants and animals the muddier water hurts.
3. Pickleweed helps several species survive. Write the letter “P” on these species.
4. If the water becomes colder, what may move away? Write the letter “C” on these animals.
5. If the water becomes deeper, some species will die. Write the letter “D” on these species.
6. People have tried to restore the marsh. They have moved trails away from where birds nest. Write the letter “R” on the plant or animal that can now survive there again.
7. People are closing the power plant. Write the letter “L” on the plant or animal that can now live and grow there again.

Name: _____



Name: _____

Part 2: The San Bernardino Mountains

Instructions: Read each of the sentences that describes a change in the forest. Write the correct letters in the box next to the drawings of the plants and animals on the next page. (1 point each)

1. People created air pollution. What did this hurt? Write the letter “AP” on it.
2. Air pollution hurt one, but that in turn helped another. What was helped? Write the letter “H” on it.
3. Mountain pine beetles changed the environment. What did they hurt? Write the letter “B” on it.
4. Floods and mudslides happened in the forest. What could not survive? Write the letters “FM” on it.
5. Drought did not kill this species but made it weak. Later, it could not survive other threats. Write the letter “D” on it.

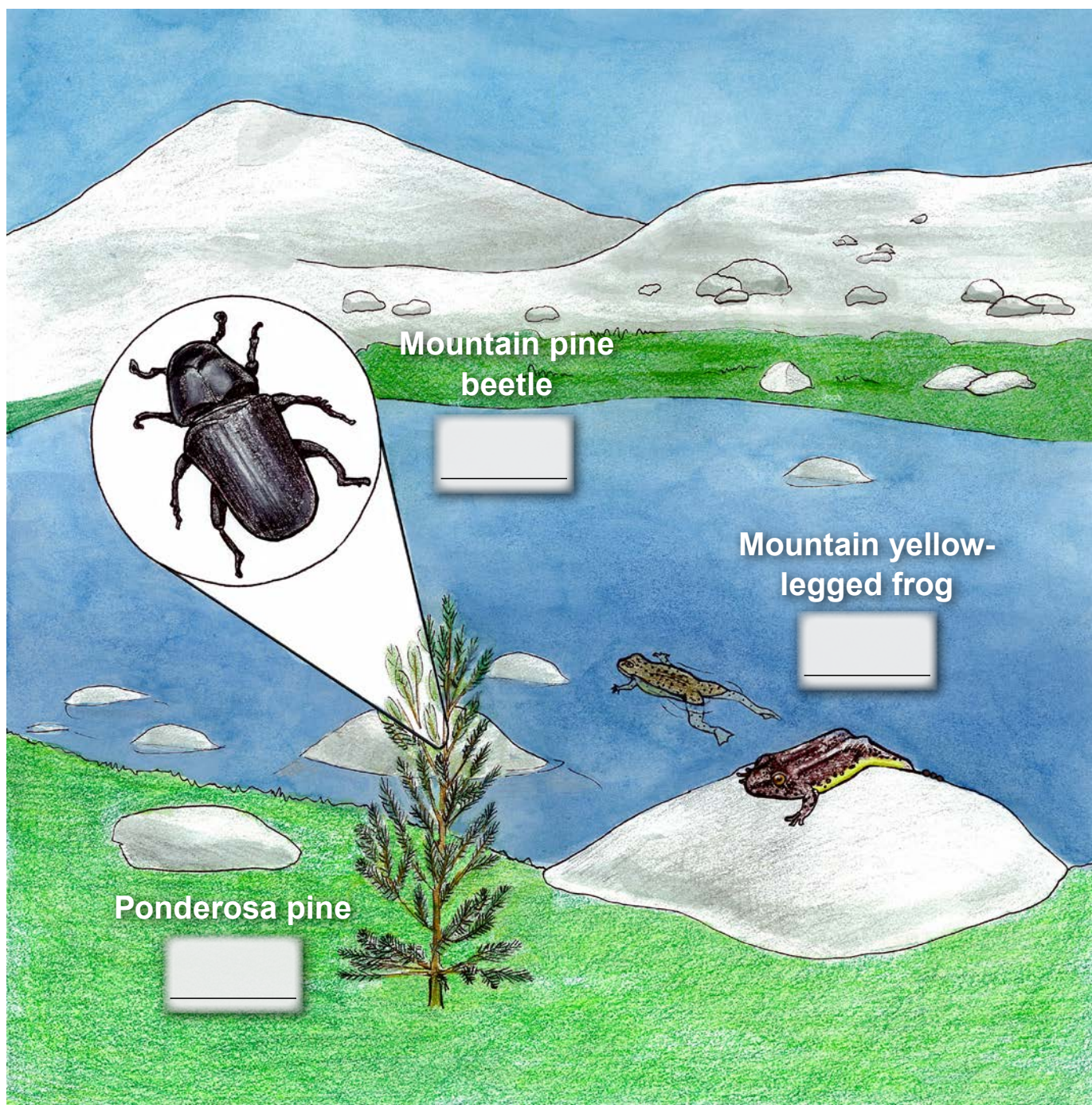
Instructions: Complete the task above and write one sentence each about how people and natural events have affected the forest environment in the San Bernardino Mountains. (3 points each)

6. People: _____



7. Natural Events: _____

Name: _____





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